AMSAT™

Affiliated with ARRL

NEWSLETTER

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AMSAT FIFTH ANNIVERSARY ISSUE

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EDITORIAL -- AMSAT'S FIFTH BIRTHDAY

By Tom Mitchell, WA3TBD

March 3, 1974 marks the fifth birthday of AMSAT's formation. Birthdays are a time for reflection, both on the past and future. Raphael Soifer's article in this issue gives some background on the spirit of OSCAR's past. Elsewhere in this issue are several references to the future.

AMSAT-OSCAR 6 has now been in operation for over sixteen months; plans for AMSAT-OSCAR 7 are well along (see "The President's Desk"); and long-term financing plans are being developed.

Growth of membership from the original handful to over 1,100 in some 52 countries has been realized during our first five years. Let's hope that the second five years will see an even greater growth in membership and support of the amateur satellite program. We would like to draw your attention to Life Membership which is now available (see page 9). It is a good investment in Amateur Radio Satellites, and Amateur Radio in general.

AMSAT NETS

The following AMSAT nets are now in operation:

North American East Coast 75 Meter Net

Mondays 8:00 p.m. EDT (0000Z Tues)

3855 kHz LSB

Net Control W3ZM or W3TMZ

North American West Coast 75 Meter Net

European 40 Meter Net

Sundays 0930Z

7070 kHz LSB

European 80 Meter Net

After OSCAR 6 passes on ON days

3780 kHz LSB

JA Net

Mondays 1300Z

3560 kHz LSB

Net Control JA1ANG

Southeast Asia Net

Thursdays 1300Z

14,320 kHz USB

ZL Net

Mondays, Thursdays and Saturdays

7:00 p.m. NZT

3850 kHz LSB

Net Control ZL1WB

In addition, the frequencies 3855 kHz LSB and 14,280 USB are designated as general watch frequencies for discussion of satellite matters after passes.

In the Washington area, AMSAT traffic is handled via 2 meter FM on 146.85 MHz simplex and through the AMSAT repeater WR3ABU (146.25 to 146.85 MHz).

In southern California, the WR6ACJ repeater (146.25 to 146.85 MHz) has been designated as an official medium for exchanging information relating to the amateur space program. It is suggested that those in other areas also adopt 85 simplex and the 25/85 repeater combination for satellite discussions. In those areas where such repeaters already exist, check with the present inhabitants of the channel to see if they would mind having their facility used for such a constructive purpose as satellite talk. If we all standardize on this frequency combination, it will be much easier to get in touch with each other when traveling.

"AMSAT-OSCAR 6 ORBITAL PREDICTIONS BOOK - 1974" NOW AVAILABLE

An AMSAT-OSCAR 6 orbital predictions book is now available from Ham Radio Magazine, Greenville, New Hampshire, 03048 USA for $2.50 (or sixteen IRC's), postpaid. This book, intended as a daily reference source for all users of the OSCAR 6 satellite, contains equatorial crossing times and longitudes for all 4,183 passes of AMSAT-OSCAR 6 between February 1 and December 31, 1974, with an accuracy estimated at better than ten seconds in time. Write Ham Radio for your copy today. (Please include extra IRC's if you would like your copy airmailed overseas).

FROM THE PRESIDENT'S DESK

By Perry Klein, K3JTE

AMSAT-OSCAR-B STATUS REPORT - December 31, 1973

As of December 31, 1973, AMSAT-OSCAR-B (A-O-B) appears to be about two months behind schedule. The status system-by-system is as follows:

A) Wiring harness - Completed on schedule (Nov. 1).

B) Two-to-ten meter repeater - Completed, checked out, and now in burn-in.

C) Canadian 435.1 MHz beacon - Completed, delivered, and undergoing tests for possible minor modifications.

D) Sensor board, experiment control logic (ECL), and instrumentation switching regulator - All are completed, except the ECL, which is undergoing modifications to ensure against the transient switching encountered with OSCAR 6.

E) 2304.1 MHz beacon - Nearing completion by the San Bernardino Microwave Society. Delivery expected from California in the next few weeks. Quadrifilar antenna is being fabricated at APL and RCA. It should be available in the next month after pattern measurements at RCA.

F) 70cm-to-2m repeater - Delivered by DJ4ZC in February 1973 and still in storage.

G) Battery charge regulators and 28-volt power regulators - Shipment from AMSAT-Deutschland has been delayed to allow further testing and is now expected in January.

H) Teletype telemetry encoder - Completed and delivered by WIA-Project Australis and now checked out.

I) Morse code telemetry encoder - Completed and checked out.

J) Spacecraft structure - Fabricated and now being assembled.

K) Solar panels, brackets for array diodes - Completed, but wiring (including RFI filters) remains to be done.

L) Battery - Completed, but a leak has developed in one cell and is being checked out.

M) Antennas - Ten-meter antenna deployment mechanism is still under development. Combined 2m/70cm antenna has been designed along with the diplexer/filter, but remains to be fabricated and tested by AMSAT-Deutschland in Germany.

N) Delta launch vehicle interface hardware - Fabrication of conical interface fitting (by AMSAT) is still required. McDonnell-Douglas, launch vehicle contractor, is now beginning fabrication of the Delta attach hardware.

O) Command decoders - One unit has been completed and checked out. The second redundant unit is completed but not yet fully working.

P) Two-meter bandpass filter (for two-to-ten meter repeater) - Wideband Engineering is reworking one of the filters they shipped to us and delivery is hoped for next month. VE3QB has volunteered to fabricate a backup filter for delivery in a short time frame if needed.

Q) Thermal design - NASA-Goddard has been assisting with thermal design, and they are currently refining the calculations. They have come up with a reasonable explanation for the unexpected thermal behavior of OSCAR 6, and we are now confident that the OSCAR 6 overheating problem won't reoccur with OSCAR 7.

R) Codestore - The last of the COS/MOS integrated circuits donated by RCA have now been received, and Codestore is now completed and checked out.

S) Stabilization system - The stabilization magnets have been received and their properties are now being measured. The permalloy hysteresis damping rods have been cut and annealed.

Time Schedule

With the successful launch of the ITOS-F satellite by NASA on November 6, 1973, it is now expected that ITOS-G, the mission we expect OSCAR 7 to fly on, will probably not be called up for launch until around July 1974.

Originally, it was expected that a launch opportunity for OSCAR 7 would exist around the beginning of 1974. The loss of ITOS-E during launch on July 16, 1973, caused a reshuffling of the launch schedule, with the result that we find ourselves with several months available for additional spacecraft testing.

AMSAT BOARD OF DIRECTORS MEETING

November 17, 1973

The meeting was called to order at 10:25 a.m. at the home of W. Tynan, W3KMV. The following directors and officers were present:

Perry Klein, K3JTE	William Tynan, W3KMV
William Dunkerley, WA2INB	Jan King, W3GEY
William Hook, W3QBC	Charles Dorian, W3JPT
Richard Daniels, WA4DGU	John Gregory, W3ATE

A report on the status of the AMSAT-OSCAR-B (A-O-B) satellite was made by Jan King and Perry Klein. It should be ready for integration into a launch vehicle by 1 April 1974. The exact date of launch is dependent upon the need for another weather satellite. Jan will be the Technical Operations Manager for A-O-B.

Discussion then occurred on the various possible follow-on satellite programs for A-O-B. They are:

1. Low polar orbit.
2. Medium attitude polar or inclined orbit.
3. Geosynchronous.

These various possibilities will be further explored and discussed with responsible authorities.

The various aspects of the need for funds and the 1974 budget were discussed. Approval was given to proceed with the budget of $85,000. If total money is not available, then an alternative budget will be developed by reduction of certain programs or stretching out of the presently planned efforts. Perry is to draft a proposal to the Armstrong Foundation soliciting funds.

Perry Klein reported on the status of the AMSAT trademark application. It was agreed to continue to press forward with our efforts.

Discussion was held on the recent FCC Notice of Inquiry on the Amateur Satellite Service. It was agreed that the following would prepare draft information.

1. Spacecraft requirements - Klein, King.
2. User requirements - Dunkerley.
3. Control stations - Tynan.

The next meeting of the Board was scheduled for December 16.

Charles Dorian, W3JPT
Secretary

AMSAT BOARD OF DIRECTORS MEETING

December 16, 1973

The meeting was called to order at 11:00 a.m. at the apartment of Perry Klein, K3JTE. The following were in attendance:

Richard Daniels, WA4DGU
William Dunkerley, WA2INB
William Hook, W3QBC
Jan King, W3GEY
Perry Klein, K3JTE
William Tynan, W3KMV

The first order of business was consideration of an offer from WIA-Project Australis to supply a 1296 MHz beacon for possible flight on a future satellite. It was concluded that such a project should be encouraged and that a 1296 MHz specification should be prepared by AMSAT and sent to them.

The matter of providing a fifteen-to-ten meter linear repeater was brought up. Perry Klein, as the principal proponent of this project, indicated that it would be relatively easy to design and fabricate a fifteen-to-ten meter repeater since it could utilize a large portion of the two-to-ten meter repeater design. He expressed the opinion that it would provide interesting propagation data. He envisioned that it would be operated principally at night when fifteen and ten meters are normally closed for regular ionospheric propagation. He saw it as a satellite repeater in reach of virtually every amateur, since most equipment is capable of operation at fifteen and ten meters. Various objections were voiced. Bill Tynan looked upon the proposal as a backward step in that one of AMSAT's objectives is to foster use of the higher frequency amateur bands. It was also thought that the repeater would suffer from a great deal of inadvertent use. It was concluded to table the idea for the present.

Jan King proposed an analog telemetry system for future satellites which would make it possible to obtain data on functions which vary rapidly with time. Present systems, such as the Morse code telemetry encoder, sample each parameter once each 90 or 180 seconds. As a result, time-varying characteristics of data such as solar array output currents cannot be obtained. Jan pointed out that such information would have been valuable in determining the spin characteristics of OSCAR 6. It was agreed that specifications for such an analog telemetry system should be prepared.

On membership matters it was decided to apply for a second class mailing permit for the AMSAT Newsletter in order to reduce postage expenses. It was also decided, however, to continue to send foreign copies by airmail. Surface mail, it was concluded, would be so slow as to render much of the information worthless. It was suggested that members who had not renewed by the mailing of the March AMSAT Newsletter be dropped from the mailing list. Since AMSAT was still converting all members over to a calendar year renewal basis, it was decided to send a follow-up letter to those who had not renewed by March as a final reminder.

A proposal to print an AMSAT membership list for general distribution was decided against. In addition to the difficulty and expense involved in keeping such a list of 1,100 members up-to-date, it was pointed out that such a list could conceivably find its way into the hands of commercial organizations, and that many members might not appreciate being solicited with advertisements.

It was also proposed that AMSAT begin to accept advertisements in the AMSAT Newsletter as an additional source of income, but this proposal, too, was decided in the negative. It was generally felt that the added effort involved to solicit such advertisements would be too great, considering the limited revenue that might be realized. It was emphasized that AMSAT will continue the policy of mentioning equipment that might become available which would be of interest to AMSAT members. This includes commercial sources and individual equipment which members may have available.

On AMSAT-OSCAR 6 operational matters, it was stated by Bill Tynan that efforts are underway to secure a command station in Great Britain. Roy Stevens, G2BVN, Secretary of IARU Region 1 has been in contact with us on this matter. It is hoped that such a station would be helpful in increasing the reliability of OSCAR 6 operation over Europe. In addition, W6OAL is building a command terminal to back-up WA6ZKY on the U.S. West Coast. The possibility of establishing a command station in Hawaii is also being pursued.

It has been suggested to some of the active AMSAT groups in Canada that amateurs might participate in the CTS (Canadian Test Satellite) synchronous communications satellite project by constructing millimeter-wave ground terminals. Experimental authorizations would have to be obtained since operation is not in the amateur bands. It was pointed out that, in addition to any experimental contributions which amateurs might be able to make, such communications channels might be used to exchange information between AMSAT members in Canada and the U.S. It was concluded that if anything along these lines is to be done, it should be accomplished by new people not now contributing to the construction and operation of amateur satellites. A fear was expressed that otherwise AMSAT's efforts in our regular activities might suffer. Otherwise, the Board expressed interest in the project.

A draft of a portion of AMSAT's intended response to the F.C.C. Notice of Inquiry regarding rules for the Amateur Satellite Service was presented. This draft was prepared by Bill Dunkerley and covered license requirements for ground (user) stations. Its approach and general content met with approval. Bill Tynan presented some thoughts on the portion of AMSAT's response for which he is responsible. This requires further work.

It was reported that the Talcott Mountain Science Center curriculum for using OSCAR satellites in schools would be ready to go to the printers in about a month.

It was brought to the attention of the Board that the support in the form of a $38,000 grant which ARRL had made to AMSAT for construction of A-O-B (AMSAT-OSCAR 7) specified that the funds would not be spent beyond February. It was concluded that AMSAT should request a stretchout in the expenditure of these funds because of the fact that launch is now anticipated sometime this summer, rather than early in 1974 as had been thought previously. It was pointed out that the rate of expenditure has not been as rapid as originally expected, largely because of the departure of one of AMSAT's two fulltime aerospace technicians. In view of these considerations, it was decided to request ARRL's agreement to continue spending ARRL grant funds beyond February, over a period up until launch.

A reduced level budget of $62,000 for AMSAT activities in 1974 was approved. It was stated that efforts were underway to secure interim financial support until funds from the ARRL Foundation became available.

William A. Tynan, W3KMV
(acting for the Secretary)

AMSAT TREASURER'S REPORT FOR JANUARY 1, 1973 TO DECEMBER 31, 1973

NET WORTH:	January 1, 1973		$ 17,948.89
RECEIPTS:	Dues (Note 1)	$ 5,249.95	
	Donations (Note 2)	26,091.65	
	Interest	730.22	
	Refunds	321.30	
	Total		$ 32,393.12
EXPENSES:	Office Supplies	$ 452.60	
	Postage, Telephone, Telegraph	3,538.43	
	Printing	2,400.75	
	Typing	491.10	
	Travel	2,589.77	
	Salaries & FICA (Note 3)	25,003.33	
	Capital Equipment Purchases	1,118.40	
	Components	4,435.06	
	Talcott Mountain Science Curriculum	1,000.00	
	Fees and Miscellaneous	454.52	
	Total		$ 41,483.96
EXCESS OF EXPENSES OVER RECEIPTS:			$ 9,090.84
ASSETS:	General Checking Account	$ 2,384.48	
	Payroll Checking Account	224.56	
	Savings Account	6,249.01	
	Total		$ 8,858.05
LIABILITIES:	Prepaid Membership Dues (Note 4)	$ 5,500.00	
	Life Memberships (Note 4)	900.00	
	AOB Project Reserves	5,500.00	
	Taxes Unpaid for 1973 (Note 5)	2,494.38	
	Total		$ 14,394.38
ACCOUNTS RECEIVABLE (from ARRL):			$ 14,813.92
NET WORTH:	December 31, 1973		$ 9,277.59

Notes to Financial Statement for 1973

Note 1: Dues received from: Individuals, $4,977.69; Family Memberships, $63.00; and Member Societies, $209.25.

Note 2: Donations included $22,255.19 from the American Radio Relay League; $1,160.84 from the International Amateur Radio Union-Region 1; $100.00 from the Ottawa Amateur Radio Club; $100.00 from the Central States VHF Society; $100.00 from the Foundation for Amateur Radio; and $2,375.62 from individuals.

Note 3: Salaries and 5.85% Social Security Tax for technicians Marie Marr, David Reiser, and R. Gary Hendrickson and engineer, Dr. Perry I. Klein.

Note 4: Prepaid dues for 1100 members at $5.00 each and 18 life members at $50.00 each.

Note 5: Accrued unemployment taxes for 1973, $390.00; quarterly withholding tax for Maryland employees, $287.27; annual withholding for D.C. employee, $648.96; and quarterly Federal withholding and FICA taxes, $1,168.15.

AMSAT GRATEFULLY ACKNOWLEDGES DONATIONS OF $50.00 OR MORE FROM THE FOLLOWING NEW LIFE MEMBERS

LM-1	Perry I. Klein	K3JTE	Washington, D.C.
LM-2	Bruce H. Rowlings	ZL1WB	Whangarei, New Zealand
LM-3	Larry Kayser	VE3QB	Ottawa, Canada
LM-4	Harry G. McGavran, Jr.	W5PNY	Los Alamos, New Mexico
LM-5	Ed Hilton	W6VKP	Los Altos, California
LM-6	Walter P. Dixon	WA3LAW	Dundalk, Maryland
LM-7	James McKim	W0CY	Salina, Kansas
LM-8	Otis R. Hill	K6MLZ/WA1IJV	Bedford, Massachusetts
LM-9	W. W. Eitel	W6UF/WA7LRU	Dayton, Nevada
LM-9a	LaNeil Eitel	WB6MRW/WA7LUN	Dayton, Nevada
LM-10	William A. Tynan	W3KMV	Silver Spring, Maryland
LM-10a	Mattie D. Tynan	---	Silver Spring, Maryland
LM-11	S. D. Cowan	W2LX	Rye, New York
LM-12	Ray Soifer	K2QBW	Glen Rock, New Jersey
LM-13	William A. Hook	W3QBC	Wheaton, Maryland
LM-14	Haruo Yoneda	JA1ANG	Tokyo, Japan
LM-15	Frank F. White	W8OY	Cleveland, Ohio
LM-16	Richard C. Kopplin	WA9EOO	FPO, New York
LM-17	Edgar C. Steeb, Jr.	WA2RDE	Buffalo, New York
LM-18	Dr. Eduardo Garcia	DU6EG	Bacolod City, Philippines
LM-19	David G. Flinn	W2CFP	Lansing, New York
LM-20	Bruce E. Montgomery	W4BFR	Atlanta, Georgia
LM-21	Robert J. Carpenter	W3OTC	Rockville, Maryland
LM-22	Harry D. Tirrell	W1LQU	Needham, Massachusetts
LM-23	C. Stanley Leaf	K8MYN	Toledo, Ohio
LM-24	Lacy Phil Wicker	W4ACY	Greensboro, North Carolina
LM-25	Victor C. Clark	W4KFC	Clifton, Virginia
LM-26	Dexter Anderson	K3KWJ	Washington, D.C.
LM-27	Edmond D. Wright	W4GFQ	Miami, Florida
LM-28	Willi Rass	DC9NV	Hochstadt, West Germany
LM-29	Frederick H. Becker	W2GV	Rochester, New York
LM-30	Sidney M. Bedford, Jr.	WB4SJT	Greensboro, North Carolina
LM-31	George Jacobs	W3ASK	Silver Spring, Maryland
LM-32	Giorgio Giro	I3BMV	Trieste, Italy

Interested in Life Membership? Use the tear-out form at the top of page 15/16 to apply. Life Memberships are available for a donation of $50 or more.

THE FOLLOWING MEMBER SOCIETIES HAVE CONTRIBUTED $100.00 OR MORE AND HAVE BEEN ENROLLED AS LIFE MEMBER SOCIETIES

LMS-1	Union Schweizerischer Kurzwellen Amateure	Seergraben, Switzerland
LMS-2	Dade Radio Club, Inc.	Miami, Florida
LMS-3	Department of State Amateur Radio Club	Washington, D.C.

AMSAT-OSCAR 6 OPERATIONS

By Bill Tynan, W3KMV

With well over a year of operating through AMSAT-OSCAR 6 under our belts, we have learned a few things, or should have. We know about the idiosyncrasies of the bird, such as why it is OFF when it should be ON, etc. We have learned to live with a somewhat limited and complicated ON schedule which must be changed more frequently than all of us would like. We have learned how to use orbital data and that it is really necessary to publish only a single reference orbit per day and how to easily compute the remaining orbits from these. (Reference orbits for the next three months appear elsewhere in this Newsletter.) We have learned what kind of antennas work well and how to best use them. We have also acquired skills in the operation of our transmitters and receivers.

Lots of contacts have been made through OSCAR 6. I dare say that almost every regular on the satellite has worked just about every other regular at least once if they are within about two thousand miles of each other!

One would think that, after all of these contacts and all of this time, the character of work through OSCAR would have evolved into something other than rapid pace contest type exchanges which characterized the mad frenzy of operating that prevailed in the months immediately following the launch in October 1972. With few exceptions, such as the traffic schedules being conducted by K0DDA and K1HTV, and some longer SSB QSO's sometimes indulged in by W2GN, VE2BYG, W6OAL, K7BBO and a few others, the passband sounds pretty much as it did a year and a quarter ago. These few have shown us, however, that OSCAR 6 and future amateur communication satellites can be used for something other than exchanging fast 559 reports. Let's learn some more from these FB satellite op's and try to get a little more out of our satellite operating time. For those of us who may not be as good with the code as some of the fellows we hear in there regularly, SSB would be a big help in achieving some real QSO's. SSB is a very effective form of voice communication through the satellite and observation indicates that an SSB signal has less effect on other signals in the passband than does a CW signal of the same strength. This is probably because the SSB wave-shape is more gentle without the sharp rises and falls characteristic of CW.

So, let's try some longer QSO's, particularly on SSB. It is true that one can't qualify for RCC on OSCAR 6, but a lot can be said in a five- or ten-minute QSO.

As many of you have probably heard by now, W2GN has joined the ranks of the AMSAT Bulletin Stations, transmitting information on the reference orbits on OFF nights at approximately 10 minutes after equatorial crossing. In addition, K1HTV, another AMSAT Bulletin Station, is regularly transmitting ARRL Official Bulletins via the satellite. Please send your comments on these services to AMSAT.

Current AMSAT-OSCAR 6 Operating Schedule :

Thursdays, Saturdays and Mondays (GMT days) - Satellite repeater ON for communications during south-to-north (local evening) passes only.

Tuesdays, Fridays and Sundays (GMT days) - Satellite repeater is ON during north-to-south (local morning) passes only, primarily for educational demonstrations to local schools and other community groups. For information on how to prepare a demonstration for your local school, contact Bill Dunkerley, ARRL, Newington, Conn. 06111.

AMSAT™

Radio Amateur Satellite Corporation
P.O. BOX 27, WASHINGTON, D.C. 20044

BYLAWS OF THE
RADIO AMATEUR SATELLITE CORPORATION
(AMSAT)

ARTICLE I - "NAME AND DEFINITION"

Section 1

The name of this organization shall be: Radio Amateur Satellite Corporation (AMSAT).

Section 2

The organization shall be a non-profit scientific corporation, incorporated in the District of Columbia.

ARTICLE II - "PURPOSES AND OBJECTIVES"

Section 1

The purposes and objectives of the Radio Amateur Satellite Corporation are:

A. To provide satellites that can be used for amateur radio communication and experimentation by suitably equipped amateur radio stations throughout the world on a non-discriminatory basis.

B. To encourage development of skills and the advancement of specialized knowledge in the art and practice of amateur radio communications and space science.

C. To foster international goodwill and cooperation through joint experimentation and study, and through the wide participation in these activities on a noncommercial basis by radio amateurs of the world.

D. To facilitate communications by means of amateur satellites in times of emergency.

E. To encourage the more effective and expanded use of the higher frequency amateur bands.

F. To disseminate scientific, technical and operational information derived from such communications and experimentation, and to encourage publication of such information in treatises, theses, trade publications, technical journals or other public media.

ARTICLE III - "MEMBERSHIP, DUES AND PRIVILEGES OF MEMBERSHIP"

Section 1

Membership shall be open internationally to any person or group indicating an interest in supporting the purposes, objectives and activities of the Corporation. An applicant for membership shall complete an application form and membership shall become effective upon receipt of membership dues.

Section 2

There shall be two classes of members. The designation of each class of member, the qualifications and rights of the members of each class and their voting rights are as follows:

A. A Member shall be a person who demonstrates interest in furthering the goals of the Corporation by filling out an application form and paying his annual dues. A Member shall have the opportunity to participate in the activities of the Corporation, to hold office and shall be entitled to one vote for each position to be filled in the elections for the Board of Directors.

B. A Member Society shall be a recognized group, club or organization which participates constructively in the activities of the Corporation. To attain the status of a Member Society, the organization shall submit a Member Society Application form signed by an authorized officer of the organization. A Member Society shall be entitled to nominate two Members as candidates for the Board of Directors of the Corporation.

Section 3

Member dues shall be five dollars ($5.00) per annum. Dues for each additional member of the immediate family shall be two dollars ($2.00) per annum. Annual dues for Member Societies shall be ten dollars ($10.00) per organization. Organizations which become members in the first year of activity of the Corporation shall be designated "Charter Member" Societies. Dues may be waived on an individual basis at the discretion of the Board of Directors. A minimum of one renewal notice shall be sent to Members and Member Societies at least sixty days prior to expiration date.

ARTICLE IV - "ELECTED OFFICERS, COMMITTEES, APPOINTED OFFICIALS AND THEIR RESPONSIBILITIES"

Section 1

The general policies of the Corporation shall be established by a Board of Directors.

Section 2

The Board of Directors shall consist of seven Members of the Corporation. The Directors shall be elected by the Membership at the annual meeting for a two-year term. Four Directors shall be elected in odd numbered years; three shall be elected in even numbered years. The Directors shall assume office immediately upon election.

Section 3

The Board of Directors, at their first meeting following the annual meeting, shall elect the Corporate Officers. Newly elected officers shall assume their respective offices immediately upon their acceptance. The retiring officers shall be responsible for assuring the effective transfer of records and responsibility to the incoming officers.

Section 4

Officers of the Corporation shall be the President, Executive Vice President, Vice President - Engineering, Vice President - Operations, Secretary, and Treasurer. Additional Officers may be elected by the Board of Directors at the discretion of the Board.

Section 5

Duties of the Officers:

A. The President shall be responsible for presiding over the membership meetings, coordinating all activities of the Corporation, authorizing all Corporation expenditures, and making final decisions in internal matters not resolved by the other officers. The President may appoint committees for a period of up to one year. Standing Committees shall require the approval of the Board of Directors.

B. The Executive Vice President shall act as Chairman Ex Officio of all Committees. He shall receive and coordinate reports which the Committees may generate. He shall facilitate communications between Liaison Officers and the Corporation. He shall act in the place of the President in his absence.

C. The Vice President - Engineering shall be responsible for managing and coordinating the activities of the technical staff.

D. The Vice President - Operations shall be responsible for the internal administrative functions of the Corporation, and for coordinating the use of the services provided by the Corporation.

E. The Secretary shall be responsible for maintaining active communication with the Members and others who may be interested in the activites of the Corporation, and shall maintain records of the Corporation's activities and minutes of the meetings.

F. The Treasurer shall be responsible for accounting for all revenues and expenditures, collecting all dues, serving notices of renewal, developing the yearly budget, preparing a financial report to be included in the Annual Report and such other interim financial reports as may be required by the Board of Directors.

He shall be responsible for assuring that an annual audit is performed by person(s) designated by the Board of Directors.

Section 6

The President may appoint Liaison officers, Consultants and such other appointed officials as the Board of Directors deems necessary and for the period deemed necessary.

Section 7

Vacancies in office:

A. The resignation of an Officer or Director shall be submitted at least one month before the effective date.

B. In event of resignation or demise of the President, the Executive Vice President shall assume the office of President until the next annual election of Officers.

C. In event of a vacancy in the office of any elected Corporate Officer other than the President as a result of the resignation or demise of such officer, the Board of Directors shall elect a temporary officer to fill the vacancy until the next annual meeting.

D. In event of resignation or demise of a member of the Board of Directors the position shall be filled until the next annual election by an alternate selected in the manner specified in Article V, Section 4.

Section 8

A Director may be suspended by presentation to the Secretary of a petition signed by ten percent of the Membership. Upon receipt of this petition, a special election shall be called by the Secretary or another Corporate Officer acting for him. This election shall take place at a special meeting of the Corporation which shall be held within sixty days from receipt of the petition.

ARTICLE V - "MEETINGS"

Section 1

An annual meeting of the Corporation shall be held between September 1 and December 31 of each year. The Membership shall be given not less than thirty days written notice of the date and place of the meeting. At this meeting the Officers shall present an annual report and the election of Directors shall take place.

Section 2

Written nominations of candidates who have agreed to serve if elected to the Board shall be submitted to the Secretary by an authorized Officer of the Member Society by a date specified in advance of the annual meeting.

Section 3

At the annual meeting votes for directors shall be counted. A mail ballot shall accompany the meeting notice. Voting shall be conducted by secret mail ballot in a fair and democratic manner, and ballots must be received prior to the close of the annual meeting.

Section 4

The three or four Members receiving the largest number of votes shall be declared elected to the Board of Directors. The two nominees receiving the next largest number of votes shall be named first and second alternate.

Section 5

A simple majority of the Board of Directors shall constitute a quorum.

Section 6

The Presiding Officer may invoke Roberts Rules of Order in case of parliamentary question.

Section 7

The Board of Directors shall meet after the annual meeting but prior to January 1 for the purpose of electing Officers. Additional meetings of the Board of Directors shall be held as deemed necessary by the Board.

ARTICLE VI - "POLICY AS TO INVENTIONS AND PATENTS"

Section 1

In the event that a Member of the Corporation, either solely or jointly with others, makes an invention, whether or not patentable, relating to the work of the Corporation, then the obligation of such Member to his regular employer shall take precedence and all rights in such invention shall be disposed of in accordance with the requirements of such regular employer.

Section 2

In the case of an invention in which the regular employer has no rights as determined by the employer and employee, the inventor may, if he wishes, disclose the invention to the Corporation in such form as it may designate, and may grant to the Corporation any rights in such invention which he may feel appropriate.

ARTICLE VII - "ADOPTION OF THE BYLAWS"

The Bylaws of the Corporation shall be adopted upon affirmative vote by a simple majority of the Members present at a regular meeting. For this purpose only, a Member is defined as a person who has submitted a completed application form.

ARTICLE VIII - "AMENDING THE BYLAWS"

Changes in the Bylaws of the Corporation shall require approval of two-thirds or more of the Directors. Notice of an amendment which has received such approval shall be circulated to the Members of the Corporation. The amendment shall take effect thirty days after mailing of said notice, unless written objection is received from at least ten percent of the Membership. In that case a mail vote shall be taken. Approval of the amendment shall then require a simple majority of those Members responding.

BYLAWS APPROVED: May 8, 1969

REVISED: Nov. 12, 1969 (Art. IV, Sect. 5, ¶F, concerning audits, and deletion of Art. IV, Sect. 9).

REVISED: Dec. 15, 1970 (Art. II, Sect. 2b and 3, and Art. 5, Sect. 2, concerning change of "Member Club" to "Member Society").

REVISED: Nov. 1972 (Art. V, Sect. 1, 2, 3 and 7, concerning changes in voting procedures and meeting dates).

REVISED: Dec. 17, 1972 (Art. IV, Sect. 4, concerning provisions for the election of additional officers).

(Printed Jan. 1974)

WHY NOT ENCOURAGE A FRIEND TO JOIN AMSAT AND SUPPORT THE AMATEUR SATELLITE PROGRAM?

AMSAT™

RADIO AMATEUR SATELLITE CORPORATION
P. O. Box 27, Washington, D.C. 20044 USA

MEMBERSHIP APPLICATION

Name ____________________ Call ______ Class of License __________ Home Ph. ___________

Street ______________________ City ______________ State ________ Zip _________

Employer _____________________ Position ____________________ Bus. Ph. ___________

Bus. Address ____

ARRL Member? ☐ Yes ☐ No. Club Affiliations ______________________________________

What Bands and Modes are you active on? ____

Education ____

Are you willing to accept an assignment within your field of interest? ☐ Yes ☐ No.

Please indicate how you can help AMSAT. ____

____

FOR OFFICE USE ONLY

NAME ____________

CALL ____________

OSCAR NOSTALGIA

By Raphael Soifer, K2QBW

A check of the AMSAT-OSCAR 6 Users List (October 15, 1972 edition) against those for OSCARs 3 and 4 reveals no fewer than 39 amateurs for whom OSCAR 6 was at least the second satellite they had successfully communicated through, and three amateurs who have unbroken records -- at least one two-way QSO through every amateur repeater satellite! For the rest of us whose space-age QSO's began with OSCAR 6, it might be of at least passing interest to know who these satellite old-timers are, and maybe even give them a flash of recognition when we hear them coming through the passband.

For the younger users who don't even remember what OSCARs 3 and 4 were, here is a brief summary. OSCAR 3 ran from March 9 to March 26, 1965, orbiting at an altitude of 570 statute miles. Its communications translator was an in-band device -- two-meters in and two-meters out. This gave rise to serious receiver desensitization problems, and partly as a result, very few amateurs were able to get in and make a contact. Only 98 stations made it, for a total of 176 two-ways. Only five QSO's were made using SSB, all in Europe; none succeeded using AM or RTTY. To the best of my knowledge, nobody tried SSTV. The other 171 two-ways were on CW. DL3YBA and K2MWA shared honors for the most contacts with 21, but didn't work each other! Two transatlantic two-ways were made, W1BU-DL3YBA, and W2AZL-EA4AO.

OSCAR 4 was launched on December 21, 1965, 144.1 MHz in and 431.94 MHz out. Its orbit was highly elliptical, approximately 121 statute miles perigee by 21,000 miles apogee, its orbital inclination, only 26 degrees. While its beacon remained on intermittently for several months, only six two-way contacts were made by eleven stations (W6GDO made two), all during the first twelve orbits! Despite its high-altitude DX potential, only one long-distance QSO was made, between K2GUN (now W2WD) and the late UP2ON, a distance record (between earth stations) which now has been exceeded routinely through OSCAR 6.

MEMBERSHIP QUESTIONNAIRE (OPTIONAL)

PLEASE INDICATE BELOW AREAS OF POSSIBLE CONTRIBUTION (Check those which apply.)

Engineering

☐ Prel. Design
☐ Antennas
☐ Tracking
☐ Power Systems
☐ Telemetry
☐ Structural Design
☐ Fabrication
☐ Drafting
☐ Other ____________________

☐ Circuit Design
☐ Data Proc.
☐ Stabilization
☐ Testing
☐ Packaging
☐ Data Acquisition
☐ Data Dissemination

Are you equipped for OSCAR operation? __________

Administration

☐ Ext. Relations
☐ Library
☐ Fund Raising
☐ Data Processing
☐ Legal
☐ Editorial
☐ Liaison with ____
☐ Other ____________

☐ Tech. Writing
☐ Clerical/Sec.
☐ Printing/Repro.
☐ Photography
☐ Accounting
☐ Publications
☐ Tech. Translation (indicate languages) ____________
☐ Education

Please describe experiments you believe AMSAT should undertake. ____________________

I understand that the statements made hereon are for the exclusive use of the Radio Amateur Satellite Corporation and will not be released to other agencies. I further understand that it is my responsibility to insure that only information which my employer does not consider proprietary will be released to AMSAT.

I hereby apply for membership in AMSAT. Attached is $5.00 to cover the first year's dues. (Donations above this amount are tax deductible.) Dues may be prepaid for any number of years, and LIFE MEMBERSHIP is available for donations over $50. Life Membership applicant check here ☐

Signed ____________________ Date ____________

Form 1 (rev. 11/73) NL 3/74

FOR OFFICE USE ONLY
Pd ________ Cd ________ Cdd ☐ Dpl ☐

A B ARRL C D Act. E F Eng. G H Exp.

Of the 98 successful OSCAR 3 users, a total of 38 appear on the OSCAR 6 Users List, as follows:

W1JSM
W1QXX
W2AZL
K2GUG
K4IXC
K4QIF
K4TI/W6YK
W4WNH
K4YYJ
W5HN/W5AJG
K5WXZ
W6AB
K6HAA
WB6KAP
WA6MGZ
W6MSG
W7JRG
W7ZC
W9TGB
W0DX (ex-W0NWX)
W0EOZ
W0EYE
W0LER
W0PHD
DJ4ZC/ZCA
DJ9DT
DL1EI
DL3BJ
DL3YBA
DL6EH
DL9AR
DL9GU
EA4AO
G3LTF
G6AG
HB9RG
OH2DV
SM6CSO

A total of 11 amateurs successfully worked through OSCAR 4. Of these, four have also worked through OSCAR 6:

W2WD (ex-K2GUN)
K4TI/W6YK
K5WXZ
DL9AR

Now for the ultimate achievement -- the clean sweep. A total of eight amateurs are eligible, having worked through OSCAR 3 and OSCAR 4, as follows:

K2MWA
WA2WEB
W4AWS
K4TI
K5WXZ
W6GDO
DL9AR
UP2ON

Of these UP2ON is deceased and WA2WEB is a club station (the East Coast VHF Society, much identified with Bill Dunkerley, WA2INB/1), leaving a possible six individual amateur stations who can still "do it all." Of these, three already have: K4TI, K5WXZ, and DL9AR. K4TI deserves special mention since he also holds OSCAR 6 WAS Number Two! Not only that, Bill is reported to have achieved the first USA amateur satellite QSO (On Orbit 9 of OSCAR 3), as well as the first world QSO on OSCAR 4.

In compiling these lists, allowances have been made for call letter changes, new locations, etc., but a few may well have been missed; if readers know of any others who should be listed above, please get in touch with AMSAT since we would like to have a complete list and keep it up to date as we go forward to OSCAR 7 and subsequent satellites.

Viewed from today's perspective, the records of OSCAR 3 and OSCAR 4 seem rather puny by comparison to OSCAR 6: approximately 2000 stations and over 100,000 two-way contacts, over 25,000 of which were using SSB, and many using RTTY and SSTV. Yet, let's not forget that AMSAT learned a great deal from the earlier OSCARs, much as the present OSCAR 6 operating techniques borrowed a great deal from those used for OSCAR 3 and OSCAR 4, and for VHF scatter. And who knows, maybe sometime in the 1980's some guy will look back on us the same way!

Sources: Gabrielson (K6DS), "OSCAR 3 Report-Communications Results," QST, December 1965, p. 84.

Harris (W1FZJ), "World Above 50 Mc," QST, February 1966, et seq.

HAWAIIAN SATELLITE COMMUNICATIONS AWARD

It is with great pleasure that we announce the establishment of the "HAWAIIAN SATELLITE COMMUNICATIONS AWARD."

This award has been established for the purpose of promoting two-way communications with Hawaiian amateurs through the AMSAT-OSCAR series satellites.

In order to be eligible for this award an amateur radio station must meet the following requirements:

1. Must have confirmed contact or contacts via OSCAR with the required number of Hawaiian amateur radio stations as listed below:

    a. All of Zone 5 plus W8, VE3, ZL and VK must have one (1) confirmed contact.

    b. Zone 4 (Minus W8), Zone 6, 7 and Zone 25 must have two (2) confirmed contacts.

    c. All other Zones -- Three (3) confirmed contacts.

2. All claimed contacts must be confirmed by submitting QSL's showing proof of contact.

3. Effective date for the start of the award is 10 January 1974. All QSL's must indicate a date of 10 January or later.

4. Cost: $1.00. This is to be submitted with award request. This will cover the cost of the award, handling and registered mail return of the QSL's and award.

5. Award requests should be submitted to KH6IHP (ex-W7EOT), the Awards Coordinator: Stephen M. Carson, KH6IHP, 1624 Kaweloka St., Pearl City, Hawaii 96782.

AMATEUR SATELLITE SERVICE COMMITTEE MEETING

December 1, 1973
San Carlos, California

A meeting of the Amateur Satellite Service Committee was called to order by Chairman William Eitel, W6UF/WA7LRU, at 1:52 p.m. at the Eitel-McCullough plant in San Carlos, Calif. Those present were:

*William Eitel, W6UF/WA7LRU, OSCAR
*Ray Vincent, WA6CBX, OSCAR
*Perry Klein, K3JTE, AMSAT
*Charles Compton, W0BUO, ARRL
*Vic Clark, W4KFC, ARRL
Harry Dannals, W2TUK, ARRL
Ed Hilton, W6VKP, OSCAR

Claude Lievsay, WB6OZJ, OSCAR
Gene Root, WB6000, OSCAR
LaNeil Eitel, WA6LUN, OSCAR
Pete Hoover, W6APW, OSCAR
Lance Ginner, K6GSJ, OSCAR
Chuck Towns, K6LFH, OSCAR

*Member, ASSC

ARRL Report: Charles Compton presented a report dated November 28, 1973, prepared by William Dunkerley, WA2INB/1, of the ARRL staff. A one-day briefing for six NASA spacemobile instructors was held September 19 by ARRL staffer Dunkerley, Public Relations Consultant Don Waters, and Perry Klein. NASA has augmented its three OSCAR ground terminals with additional receivers, and these have been deployed. Two terminals already are operational.

The initial printing of 2000 copies of the curriculum supplement preview has been exhausted and an additional 1000 have been printed.

ARRL staff personnel, assisted by Fred Merry, W2GN, participated in the 26th annual convocation of the New York State Educational Communications Association, Nov. 6-9. A complete OSCAR terminal was installed and demonstrated to about 2000 educators.

A 30-minute video tape is being prepared by ARRL which will feature a "classroom in space science." An introduction by Astronaut Owen Garriott, W5LFL, is to be taped in Houston this month. The possibility of producing the program on commercial standard video tape for Educational TV distribution is being considered.

AMSAT Report: Perry Klein distributed copies of the AMSAT Status Report dated November 14, 1973. Progress on A-O-B (AO-7) now is approximately one month behind the original schedule, due in part to the loss of the full-time services of Gary Hendrickson, W3DTN. A launch date in the area of June 1974 now appears to be a possibility; no difficulty is expected in completing all tests on the package by that time. The October AO-6 user report shows that more than 1800 amateurs have made contacts via that satellite, which continues to function well. Some modification of the operating schedule has been necessary to conserve the batteries and assure proper charging. The present schedule is: Thursdays, Saturdays and Mondays (GMT days) the satellite repeater is on for communications during south to north passes only. Tuesdays, Fridays and Sundays (GMT days) the repeater is on during the north to south passes, and is to be used primarily for educational demonstrations to local schools and other community groups.

AMSAT has originated correspondence to the National Sports Federation of the U.S.S.R. radio amateurs to explore possibilities of a joint amateur radio effort, possibly consisting of code-store exchanges in conjunction with the U.S.-Russian space rendezvous.

AMSAT board members have met with FCC representatives to discuss AO-7 licensing matters. Topics included the possible requirement for a call sign, separate licensing of ground command stations and enabling of technician class amateurs to use AO-7.

OSCAR Report: Ray Vincent distributed copies of OSCAR status and position report of November 29, 1973. Work continues on the design and fabrication of a standard spaceframe assembly to accommodate future non-synchronous amateur satellite equipment. The design of the spaceframe and its associated module housings is being coordinated with AMSAT to maximize the use of existing equipment designs and launch interfaces.

The importance of close cooperation between OSCAR and AMSAT in pursuing a design program for the provision of electronics for the module assemblies for AO-8 and AO-9 was emphasized. Lance Ginner exhibited magnesium spaceframe module samples which have been fabricated by OSCAR, pointing out that tooling dies have been prepared which will enable future production of spaceframe components.

Efforts continue by OSCAR to acquire donated small parts to supply to AMSAT for use in construction of electronic subsystems. Also, a number of items of test equipment have been obtained on a donated basis through efforts of OSCAR members.

Amateur Satellite Service Committee Charter: Harry Dannals summarized ASSC history, pointing out that the committee was an outgrowth of a January 1972 ARRL board meeting motion calling for establishment of a special committee to plan, guide and encourage the amateur space activities program. Purpose of the committee was to provide a cooperative interface and sounding board for groups concerned with space programs, and to actively investigate all satellite program aspects, including fund raising. He stressed that ARRL's role is not to build satellites, but rather to encourage and support the efforts of those who undertake such projects. ARRL can do this by taking over more of the administrative aspects of these programs, and by carrying out educational and international functions related to satellite activities.

Following extended discussion, it was unanimously agreed that the Amateur Satellite Service Committee should be constituted as a permanent entity, its name changed to the Amateur Satellite Service Council to reflect its enduring nature, and its charter restated as follows:

CHARTER OF THE AMATEUR SATELLITE SERVICE COUNCIL

I. Purpose

The Amateur Satellite Service Council (ASSC) shall have as its purposes:

A. To provide a forum in which its several member organizations are encouraged to present their ideas and approaches for the furtherance of the Amateur Satellite Service.

B. To function as a consultative body to elicit from its several member organizations their opinions regarding the soundness, utility, and possible risks involved in proceeding with proposed projects, and to suggest alternative approaches if such appear worthwhile.

C. To arrange cooperation and assistance among its member organizations in carrying out specific projects.

D. To serve as a coordinating and advisory body in amateur satellite affairs.

E. To act as a spokesman for its member organizations.

II. Limitations

The ASSC shall in no way act to limit or diminish the independence and freedom of action of any of its member organizations.

III. Membership

ASSC membership shall be open to radio amateur organizations actively involved in amateur satellite projects. Initial ASSC membership shall consist of the American Radio Relay League (ARRL), Project OSCAR, and the Radio Amateur Satellite Corporation (AMSAT). Additional organizations shall be admitted upon application and a two-thirds majority vote of the ASSC member organizations.

IV. Representation

Each member organization shall designate two of its members as ASSC representatives. Alternates may be designated as ASSC representatives to specific ASSC meetings should the agenda or other circumstances warrant it. A member organization may be represented by only one person if such is necessary.

V. Chairman

The Chairman shall be elected by majority vote of the member organizations (each organization having one vote). The Chairman must be affiliated with one of the member organizations.

VI. Meetings

The ASSC shall hold at least one meeting per year, which shall be designated the Annual Meeting. The time and place of all meetings shall be determined by the Chairman with due regard to the convenience of the member organizations' representatives. A meeting shall be called by the Chairman within sixty days of receipt of a request by two-thirds of the member organizations.

Liaison Director: ASSC members, following further discussion, concluded that the position of ARRL liaison director to AMSAT and to OSCAR would no longer be required, inasmuch as this liaison function can be accomplished through ASSC and through the normally supportive and cooperative relationships existing with local ARRL directors.

Docket 19852: Harry Dannals reported that ARRL has requested an extension of time for comments on this Notice of Inquiry, and read ARRL's letter of November 15, 1973, to IARU member societies requesting their advice and inputs in connection with this matter.

After discussion, it was decided that OSCAR, AMSAT and ARRL will each separately prepare its comments and recommendations on the technical, operational and regulatory aspects of this Notice, and that these will be coordinated among the ASSC representatives at a meeting to be held at least 90 days before the due date for comments. Individual satellite users also will be encouraged to register their views to FCC in this matter.

Satellite Program Funding Requirements: Gene Root pointed out that OSCAR would not be able to provide financial assistance to AMSAT from its existing reserves, as these will be needed to pursue the spaceframe development program. Perry Klein indicated that funds presently available will suffice to carry the program through next February or March, by which time AO-7 should be complete and ready for launch. The need for funds, therefore, applies to AO-8 and subsequent satellites. AMSAT estimates a requirement for approximately $50,000 per year to continue with amateur satellite programs which will assure continuity of satellite service. About a year and a half is required to assemble, test and launch an amateur satellite. Typical costs are approximately $5000 per module for a 12-module satellite; this, with related costs, amounts to approximately $90,000 per satellite.

Although efforts are being made to expedite the establishment of the new ARRL Foundation, Harry Dannals estimated that it could not be expected to be a source of funds for this purpose for the next several months. An extended discussion resulted in agreement on the following points:

- AMSAT can continue to perform at its present rate through Feb. 28, 1974, employing currently available funds.
- This will result in satellite AO-7 being placed in a condition of readiness for launch.
- AO-8 can then be started, but funds must be provided from some source at the rate of about $50,000 per year if work is to continue at the present rate. This presupposes availability of completed spaceframe components from OSCAR.
- The new ARRL Foundation is unlikely to be a source of funds until well into 1974.
- ARRL can continue to fund nominal administrative costs at approximately the rate established in previous years.

Perry Klein stated that AMSAT plans to attempt an interim fund-raising effort and solicited the assistance of OSCAR members in this effort.

The meeting was adjourned at 5:45 p.m.

Respectfully submitted,
V. C. Clark, W4KFC
Secretary

RADIO AMATEUR CALLBOOK NOW CARRIES AMSAT-OSCAR USERS DIRECTORY

Has everyone heard that the latest edition of the RADIO AMATEUR CALLBOOK now carries the "AMSAT-OSCAR Users Directory" of OSCAR 6 users, provided by AMSAT? If you like this idea, we urge you to write the Publisher, RADIO AMATEUR CALLBOOK, 925 Sherwood Drive, Lake Bluff, Illinois 60044, U.S.A. to tell them so. They need feedback from OSCAR satellite users if they are to continue to provide this useful service.

COMPLETE SETS OF "AMSAT NEWSLETTER" BACK ISSUES

A limited number of complete sets of the "AMSAT Newsletter" Volumes I through V (1969-1973) are available from AMSAT for a contribution of $25 or more.

AMSAT congratulates the following members on their having worked all states via AMSAT-OSCAR 6:

W3TMZ
K4TI
W9OII
W8DX
W5VY

W0LER
DJ6RD/W9
K2GUG
W6EJJ
W0NQQ

W9TGB

LETTERS

Dear Sir:

Congratulations to AMSAT and all those involved in the highly successful OSCAR 6 program.

OSCAR 6 has certainly proven the high degree of technical competence of today's amateur. Whether it is in the construction, logistics, commanding or communicating thru OSCAR 6, today's amateur has been quick to adapt to this new mode of communication.

I would like to express our thanks and gratitude to all those who have contributed to our investigation of the Inverted Doppler anomaly observed on the 435.1 MHz beacon of OSCAR 6.

Again, congratulations and best wishes for a successful future OSCAR program.

John C. Fox, W0LER
Minneapolis, Minn.
January 13, 1974

Dear Sir:

I think there's a mistake in the number of OSCAR 6 users' countries, published in AMSAT Newsletter of December 1973, page 5. According to DXCC nomenclature there should be two German countries and Russia (USSR) too, totaling 76 countries instead of 74.

Many amateurs are preparing for the OSCAR 7 satellite, judging from the number of technical inquiries I've got. One certainly will need good orbital information (and a lot of time!) to use both OSCAR 6 and 7, jumping from one frequency band to another, switching antennas, etc. -- still don't know what my XYL is going to say after OSCAR 7 launch!

Wes Wysocki, SP2DX
Sopot, Poland
January 22, 1974

Dear Sir:

It is with great pleasure that I read your letter of January 17 and the general write-up on the performance of the AMSAT-OSCAR 6 satellite. As you might expect, I was particularly pleased with the fine results you have received from our COS/MOS circuits. We are quite proud of our COS/MOS product line and are happy that we were able to cooperate with you on OSCAR 6.

Your consideration in sending us information on the performance of OSCAR 6 is sincerely appreciated and we look forward to similar successful results from AMSAT-OSCAR 7.

Thanks again.

D. J. Donahue
Division Vice President
Solid State Integrated Circuits
RCA
Somerville, New Jersey
January 24, 1974

Dear Sir:

Attached are copies of CN8BO log and QSL card confirming first Africa to North America contact via an amateur satellite.

Please Note: QSL Mgr. for CN8BO is W4GKP, but cards can also go via K7VAT; his USA home call (W2GN has broadcast this on AMSAT bulletin via OSCAR).

Vic Politi, W1NU
Fairfield, Conn.
January 25, 1974

P. S. OH2RK has a QSL card that is fantastic! Try to get a copy from ARRL.

Dear Sir:

Let me congratulate you in the strongest terms for the unprecedented success achieved by AMSAT-OSCAR 6.

I am anxiously awaiting the next OSCAR 7, to operate on 432 MHz.

I wish and I hope also a similar success with this new satellite.

Jesus Cordova, EA4AO
Madrid, Spain
January 25, 1974

Dear Sir:

In my opinion we cannot hope to obtain maximum communications efficiency from the upcoming AMSAT-OSCAR 7 satellite if we continue to intermingle 'phone and c.w. operation across the entire passband of the satellite. It is well established by our experience with other ham bands that the two modes are not compatible, and this has been recognized by separation of the two modes by Government regulation. We should profit by our experience and do the same for satellite communications.

If, as many of us feel, a large part of ham radio's future lies in the use of satellites, let's not handicap that future by throwing past experience overboard. Intermingling was acceptable when OSCAR 6 was new, but now the number of users has grown to the point where inter-mode QRM has become a limiting factor, preventing us from a proper evaluation of the potential usefulness of satellites in amateur communications.

Speaking as one who has used AMSAT-OSCAR 6 extensively from within USA, and to a lesser degree from Curacao and Sint Maarten, it has been my experience that many weak-signal contacts have been rendered impossible by the present intermingling of modes. I'd like to urge all interested parties to give this some serious consideration, and to take some action before it is too late.

Admittedly, there would be extreme complications if we were to ask the FCC to set up such regulations, because both the uplink and downlink frequencies for OSCAR 7 lie within 'phone sub-bands. However, there is nothing to prevent us from creating the needed separation by gentlemen's agreement.

If you agree with me that separation of the two modes will be of benefit when OSCAR 7 becomes operational, please let the people who can do something about it know your feelings. Send a copy of this letter to AMSAT and to ARRL to let them know you want something done. My own suggestion is that half the passband should be for 'phone, and that c.w. should be unrestricted. If 'phone usage increases from the present OSCAR 6 level, the proportions could be changed . . . but in any event, separation of the two modes is needed.

Richard M. Smith, W1FTX
Winsted, Connecticut
January 29, 1974

OSCAR CURRICULUM BOOK NOW AVAILABLE FROM ARRL

"Space Science Involvement," a 64-page curriculum supplement intended for secondary school teachers, is now available from ARRL Headquarters. Produced by educators at the Talcott Mountain Science Center, Avon, Conn. under a contract from AMSAT, this curriculum source material illustrat how AMSAT-OSCAR 6 can be used as a classroom instructional tool.

For your free copy of the curriculum book, write Bill Dunkerley C/O ARRL, 225 Main Street, Newington, Conn. 06111, U.S.A. Be sure to specify how and where you expect to use OSCAR 6 for educational purposes. ARRL is responsible for dissemination and coordination of the amateur satellite education program.

AMSAT-OSCAR 6 REFERENCE ORBITS

The following data for AMSAT-OSCAR 6 are supplied by AMSAT. The times are in GMT, and Longitudes are in degrees west of Greenwich.

Period = 114.99455 minutes. Longitude increment = 28.7487 degrees per orbit.

Note that orbits repeat on a 263-orbit cycle every three weeks (i.e. every 21 days), but 3.6 minutes later and 0.9 degrees further west.

REV	DATE		TIME Z	LONG W
6278	MAR	1	0045.5	59.1
6291	MAR	2	0140.4	72.8
6303	MAR	3	0040.3	57.8
6316	MAR	4	0135.3	71.5
6328	MAR	5	0035.2	56.5
6341	MAR	6	0130.1	70.3
6353	MAR	7	0030.1	55.2
6366	MAR	8	0125.0	69.0
6378	MAR	9	0024.9	54.0
6391	MAR	10	0119.9	67.7
6403	MAR	11	0019.8	52.7
6416	MAR	12	0114.7	66.4
6428	MAR	13	0014.7	51.4
6441	MAR	14	0109.6	65.1
6453	MAR	15	0009.5	50.1
6466	MAR	16	0104.4	63.8
6478	MAR	17	0004.4	48.8
6491	MAR	18	0059.3	62.6
6504	MAR	19	0154.2	76.3
6516	MAR	20	0054.2	61.3
6529	MAR	21	0149.1	75.0
6541	MAR	22	0049.0	60.0
6554	MAR	23	0144.0	73.7
6566	MAR	24	0043.9	58.7
6579	MAR	25	0138.8	72.4
6591	MAR	26	0038.8	57.4
6604	MAR	27	0133.7	71.2
6616	MAR	28	0033.6	56.1
6629	MAR	29	0128.6	69.9
6641	MAR	30	0028.5	54.9
6654	MAR	31	0123.4	68.6

REV	DATE		TIME Z	LONG W
6666	APR	1	0023.4	53.6
6679	APR	2	0118.3	67.3
6691	APR	3	0018.2	52.3
6704	APR	4	0113.2	66.0
6716	APR	5	0013.1	51.0
6729	APR	6	0108.0	64.7
6741	APR	7	0008.0	49.7
6754	APR	8	0102.9	63.5
6766	APR	9	0002.8	48.5
6779	APR	10	0057.7	62.2
6792	APR	11	0152.7	75.9
6804	APR	12	0052.6	60.9
6817	APR	13	0147.5	74.6
6829	APR	14	0047.5	59.6
6842	APR	15	0142.4	73.4
6854	APR	16	0042.3	58.3
6867	APR	17	0137.3	72.1
6879	APR	18	0037.2	57.1
6892	APR	19	0132.1	70.8
6904	APR	20	0032.1	55.8
6917	APR	21	0127.0	69.5
6929	APR	22	0026.9	54.5
6942	APR	23	0121.9	68.2
6954	APR	24	0021.8	53.2
6967	APR	25	0116.7	66.9
6979	APR	26	0016.7	51.9
6992	APR	27	0111.6	65.7
7004	APR	28	0011.5	50.6
7017	APR	29	0106.4	64.4
7029	APR	30	0006.4	49.4

REV	DATE		TIME Z	LONG
7042	MAY	1	0101.3	63.
7054	MAY	2	0001.2	48.
7067	MAY	3	0056.2	61.
7080	MAY	4	0151.1	75.
7092	MAY	5	0051.0	60.
7105	MAY	6	0146.0	74.
7117	MAY	7	0045.9	59.
7130	MAY	8	0140.8	73.
7142	MAY	9	0040.8	58.
7155	MAY	10	0135.7	71.
7167	MAY	11	0035.6	56.
7180	MAY	12	0130.6	70.
7192	MAY	13	0030.5	55.
7205	MAY	14	0125.4	69.
7217	MAY	15	0025.4	54.
7230	MAY	16	0120.3	67.
7242	MAY	17	0020.2	52.
7255	MAY	18	0115.1	66.
7267	MAY	19	0015.1	51.
7280	MAY	20	0110.0	65.
7292	MAY	21	0009.9	50.
7305	MAY	22	0104.9	64.
7317	MAY	23	0004.8	49.
7330	MAY	24	0059.7	62.
7343	MAY	25	0154.7	76.
7355	MAY	26	0054.6	61.
7368	MAY	27	0149.5	75.
7380	MAY	28	0049.5	60.
7393	MAY	29	0144.4	73.
7405	MAY	30	0044.3	58.
7418	MAY	31	0139.3	72.

7430	JUNE	1	0039.2	57.6
7443	JUNE	2	0134.1	71.3
7455	JUNE	3	0034.1	56.3
7468	JUNE	4	0129.0	70.0
7480	JUNE	5	0028.9	55.0
7493	JUNE	6	0123.9	68.8
7505	JUNE	7	0023.8	53.7
7518	JUNE	8	0118.7	67.5
7530	JUNE	9	0018.7	52.5
7543	JUNE	10	0113.6	66.2
7555	JUNE	11	0013.5	51.2
7568	JUNE	12	0108.4	64.9
7580	JUNE	13	0008.4	49.9
7593	JUNE	14	0103.3	63.6
7605	JUNE	15	0003.2	48.6

7618	JUNE	16	0058.2	62.3
7631	JUNE	17	0153.1	76.1
7643	JUNE	18	0053.0	61.1
7656	JUNE	19	0148.0	74.8
7668	JUNE	20	0047.9	59.8
7681	JUNE	21	0142.8	73.5
7693	JUNE	22	0042.8	58.5
7706	JUNE	23	0137.7	72.2
7718	JUNE	24	0037.6	57.2
7731	JUNE	25	0132.6	70.9
7743	JUNE	26	0032.5	55.9
7756	JUNE	27	0127.4	69.7
7768	JUNE	28	0027.4	54.6
7781	JUNE	29	0122.3	68.4
7793	JUNE	30	0022.2	53.4

7806	JULY	1	0117.1	67
7818	JULY	2	0017.1	52
7831	JULY	3	0112.0	65
7843	JULY	4	0011.9	50
7856	JULY	5	0106.9	64
7868	JULY	6	0006.8	49
7881	JULY	7	0101.7	63
7893	JULY	8	0001.7	48